

## Abstract

Stress exerted on an inner or outer circumferential side of a glass tube 6 is controlled when a glass material 3 is heated and softened by a heating element 41 provided around the glass material 3 and a piercing plug 31 is relatively pressed into a softened region of the glass material 3 to thereby form the glass material 3 into the glass tube 6 gradually. For example, the control of the stress can be carried out by controlling an internal or external pressure of the glass tube 6. As a result, the deformation of the glass tube 6 just after piercing is prevented so that the glass tube 6 can be obtained with high quality. It is also possible to solve the problem that cracks may occur easily at the time of reheating because of residual stress distribution after cooling.